

4.4 — Factor Markets — Practice Problems

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Carl's Coal Mining operates in a remote area. Because of its location, it has monopsony power in the local labor market for miners. Its marginal revenue product of labor is

$$MRP_L = 400 - 5L$$

where L is the total number of miners. The labor supply curve of local miners is

$$w = 5L - 50$$

where w is the wage (in \$1000's per miner).

- a. Write a function for the marginal cost of labor.
- b. What quantity of workers will the mine hire, and what wage will it pay its workers?
- c. What would the quantity of workers be, and what would the wage be, if there was competition among other local mines for labor?
- d. Sketch a graph of this market, and be sure to label all of your findings (and show the Deadweight Loss) from Parts A-C.